

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

REMARKS

Claims 1-11 are pending in the present application and stand rejected. Claim 1 has been amended to include "wherein said material is at least a portion of an absorbent article." Support for this amendment may be found at page 31, lines 20-22.

Claim 3 has been amended to insert "material" in place of "nonwoven material" in order to recite a more preferred embodiment. Claim 3 has further been amended to recite dependence upon Claim 1 instead of Claim 2. Support for both amendments is found at page 30, lines 29-32.

Claims 4-5 have been amended to insert "material" in place of "nonwoven material" in order to recite a more preferred embodiment. Support for this amendment is found at page 30, lines 29-32.

Claim 7 has been amended to address a typographical error by replacing "on" with "one."

Claim 8 has been amended to delete the term "nonwoven." Support for this amendment is found at page 33, lines 23-27

Claims 9-11 are cancelled without prejudice.

New Claim 12, dependent from Claim 1, has been added to recite an embodiment where the absorbent article is selected from the group consisting of diapers, incontinence products, and catamenial products. Support for this new claim is found at page 31, lines 20-22.

New Claim 13, dependent from Claim 1, has been added to recite an instance where the portion of the absorbent article is selected from the group consisting of topsheets, acquisition layers, distribution layers, wicking layers, storage layers, absorbent cores, absorbent core wraps, containment structures, and combinations thereof. Support for this new claim is found at page 33, lines 14-16.

New Claims 14-23 have been added to recite preferred embodiments of the present invention. Support for Claims 14-16 is found at page 33, lines 17-22. Support for Claim 17 is found at page 5, line 7 and page 20, lines 18-20. Support for Claims 18-20 is found at page 30, lines 29-32. Support for Claim 21 is found at page 32, lines 8-12. Support for Claim 22 is found at page 38, lines 20-24. Support for Claim 23 is found at page 33, lines 23-27.

No new matter is believed to have been added. Consequently, entry of these amendments is respectfully requested.

Appl. No. 10/060,694
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REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Office states that Claims 1-11 are rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Applicants traverse the rejections. Each rejection is discussed in order as presented within the Office Action.

The Office states that the term "high energy," as found in Claims 1 and 6, is vague and indefinite unless clearly defined in the specification as relevant cited prior art. Furthermore, the Office states that the term "high" is relative with no defined bounds. First, Applicants submit that the Office unnecessarily dissects a clear term "high energy surface treatment" to focus on the term "high." Case law states that acceptability of relative claim language is based on whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification. *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984). Applicants submit that a person of ordinary skill in the art would understand the term "high energy surface treatment." The written description, at page 32, line 5 to page 33, line 9, contains sufficient disclosure such that one of ordinary skill in the art could fully understand the term "high energy surface treatment."

The Office further states that the term "nanoparticle," as found in Claim 1, is of uncertain scope. In support of this assertion, the Office contends that the specification teaches useful sizes but does not define what limits are placed on the size of a "nanoparticle." Applicants again submit that a person of ordinary skill in the art would fully understand the term "nanoparticle." The written description, at page 12, line 14, discloses an express range of sizes from 0 nm to 750 nm. Furthermore, a skilled artisan would recognize a "nanoparticle" as a particle of size less than 1 micron.

The Office asserts that the term "gush," as found in Claim 9-11, is an undefined quantity. Applicants again submit that a person of ordinary skill in the art would understand the term "gush" in light of the specification. The specification provides for "5 ml gushes" at page 49, line 2. A skilled artisan would clearly recognize a gush to be a 5 ml gush in light of this disclosure.

The Office identifies that, within Claim 3, the term "the structural component" lacks antecedent basis. Applicants have amended Claim 3 to recite "the structural components of said

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
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material." As amended, Claim 3 and particularly the term "structural components" have proper antecedent basis in Claim 1.

Finally, the Office states that, within Claims 8-11, the term "treated nonwoven material" is without antecedent basis. Claim 8 has been amended to recite "treated material." As amended, Claim 8 and term "treated material" have proper antecedent basis in Claim 1. Claims 9-11 have been cancelled without prejudice.

In light of the amendments and discussion presented above, Applicants respectfully request withdrawal of the § 112 rejections.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 and 6-7 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,045,969 to Verschueren et al. (hereafter "Verschueren"). In support of this rejection, the Office states that Verschueren teaches plasma treating a hydrophobic substrate, such as polyolefin coated paper, so as to improve adhesion of a subsequently applied hydrophilic layer, which preferably contains materials such as colloidal silicas (average particle size up to 40nm) or metal oxide particle such as aluminum oxide (>100nm) or titanium oxide (200-500 nm). Applicants traverse this rejection.

Applicants submit that the claims, as amended, are not anticipated by Verschueren. Verschueren discloses a method for obtaining a lithographic base comprising the steps of plasma treating a hydrophobic support and coating the support with a non-gelatinous hydrophilic (co)polymer or (co)polymer mixture. The hydrophobic supports include organic resins such as cellulose acetate films and polyolefin coated paper. The plasma treatment of the hydrophobic support is disclosed as being at a power of at least 120 W/m². The hydrophilic (co)polymer layer is a non-gelatinous and preferably non-proteinic (co)polymer with preference given to a polyvinyl alcohol. Verschueren further discloses that the hydrophilic layer preferably contains substances that increase the mechanical strength or porosity of the layer. Such substances include colloidal silica particles with an average size of up to 40 nm and metal oxides with an average diameter of 100 nm.

As presented above, Claim 1 has been amended to recite a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components,

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

is a portion of an absorbent article. In light of this amendment, Verschuere fails to teach each and every element of the claim. Case law clearly states that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Verschuere fails to teach or suggest that its lithographic base is part of an absorbent article. Likewise, Verschuere fails to teach or suggest every limitation of Claims 6-7, which are dependent from and contain all limitations of Claim 1. As such, Applicant respectfully request reconsideration and withdrawal of this rejection.

Claims 1 and 6-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,073,404 to Huang (hereafter "Huang"). In support of this rejection, the Office states that Huang teaches corona pre-treatment of a substrate material in order to improve adhesion of a subsequently applied coating comprising 10-80% silica sol with a particle size less than about 50 nm. Applicants traverse this rejection.

Applicants submit that the claims, as amended, are not anticipated by Huang. Huang discloses a process for making a retroreflective sheet having a protective silica coating comprising, in part, the steps of preparing a protective coating composition, providing a retroreflective sheet, and coating said retroreflective sheet with the protective coating composition. In one embodiment of the Huang process, the retroreflective sheet is exposed to corona discharge before being coated with the protective coating composition. Huang teaches that the retroreflective sheet may comprise several layers with a top layer (i.e., the layer on which the protective coating composition is applied) typically comprised of polyacrylate, polyurethane, polyvinyl, or polycarbonate polymers. The protective coating composition is disclosed as being a mixture of silica sol (aquasol, hydrosol, or colloidal dispersion) with aliphatic polyurethane or polyvinyl chloride copolymers in organic solvents or water dispersions. The colloid particle should be less than about 50 nm in diameter. Example III compares brightness recovery after water condensation upon a retroreflector surface. Huang states that the "protective coating has been made hydrophilic . . . it is readily wetted by water." Col. 11, lines 3-4.

As presented above, Claim 1 has been amended to recite a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components,

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

is a portion of an absorbent article. In light of this amendment, Huang fails to teach each and every element of the claim. Huang fails to teach or suggest that the retroflective sheet is part of an absorbent article. Likewise, Huang fails to teach or suggest every limitation of Claims 6-7, which are dependent from and contain all limitation of Claim 1. As such, Applicant respectfully request reconsideration and withdrawal of this rejection.

Claims 1 and 6-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,128,426 to Ohta et al. (hereafter "Ohta"). In support of this rejection, the Office states that Ohta teaches treating a hydrophobic film to a hydrophilizing pre-treatment step, such as electron bombardment, UV radiation, flame treatment, corona discharge, etc., followed by deposition of a copolymer dispersion with a copolymer particle diameter of preferably 0.15 microns. Applicants traverse this rejection.

Applicants submit that the claims, as amended, are not anticipated by Ohta. Ohta discloses a process for subbing a photographic hydrophobic film comprising the steps of pretreating at least one surface of the film to make the surface hydrophilic and the coating the pretreated surface with an aqueous dispersion containing a copolymer. The hydrophobic films include polyester films, cellulose ester films, and polycarbonate films. Ohta teaches the pretreatment steps identified by the Office above. Ohta states that particle diameter of the copolymer in the resulting dispersion is preferably approximately 0.15 microns.

As presented above, Claim 1 has been amended to recite a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components, is a portion of an absorbent article. In light of this amendment, Ohta fails to teach each and every element of the claim. Ohta fails to teach or suggest that the hydrophobic film is part of an absorbent article. Likewise, Ohta fails to teach or suggest every limitation of Claims 6-7, which are dependent from and contain all limitation of Claim 1. As such, Applicant respectfully request reconsideration and withdrawal of this rejection.

Claims 1-2 (3-5) and 6-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,660,142 to Kasugai et al. (hereafter "Kasugai"). In support of this rejection, the Office states that Kasugai teaches a process for improving the wettability (i.e., hydrophilicity) of a photographic base material, which may be polyethylene coated paper or cloth, where corona discharge treatment is carried out on the base material with contact angles

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

within the Applicants' claimed ranges. The Office further states that the treated substrate is then coated with a photographic light sensitive material with an average particle size of 0.1 micron. Applicants traverse this rejection.

Applicants submit that the claims, as amended, are not anticipated by Kasugai. Kasugai discloses a process for making a photographic base material wherein at least the surface comprises a polyethylene containing a specific material having a structural formula presented as material (I). Col. 1, line 32-42. The base material described as being polyethylene film and polyethylene-coated paper, cloth, wood, and metal. The base material is subjected to a corona discharge. Kasugai, in Example 2, discloses the further step of applying a light-sensitive emulsion to a corona treated base material. The emulsion employed is a mixture of gelatin, silver halide having an average particle size of 0.1 micron, and water.

As presented above, Claim 1 has been amended to recite a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components, is a portion of an absorbent article. In light of this amendment, Kasugai fails to teach each and every element of the claim. Kasugai fails to teach or suggest that the base material is part of an absorbent article, but instead teaches a base material relating to photography. Likewise, Kasugai fails to teach or suggest every limitation of Claims 3-7, which are dependent from and contain all limitation of Claim 1. As such, Applicant respectfully request reconsideration and withdrawal of this rejection.

Claims 1-7 stand rejected under 35 U.S.C. § 102(c) as being anticipated by U.S. Patent No. 6,602,812 to Onodera et al. (hereafter "Onodera"). In support of this rejection, the Office states that Onodera teaches irradiating a polyolefin material, such as polypropylene or polyethylene, with radiation and oxygen to make the polyolefin material hydrophobic. The Office further contends that the treated material is then used to remove leukocytes from blood. The Office asserts that leukocytes may be considered particulate in nature and are of a size small enough to be called nanoparticles. The Office concludes that when blood is applied to the irradiated nonwoven, Onodera reads upon the Applicants' claimed process. Applicants traverse this rejection.

Applicants submit that the claims, as amended, are not anticipated by Onodera. Onodera discloses a leukocyte-removing material composed substantially of a polyolefin. The factor of

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

hydrophilicity can be adjusted by irradiating the polyolefin in the presence of oxygen. Onodera discloses irradiation by electron beam, gamma rays, alpha rays, beta rays, X-rays, etc. The irradiated leukocyte-removing material may then be used as packing in a leukocyte-removing filter apparatus for removing leukocytes from leukocyte containing fluids.

As presented above, Claim 1 has been amended to recite a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components, is a portion of an absorbent article. In light of this amendment, Onodera fails to teach each and every element of the claim. Onodera fails to teach or suggest that the base material is part of an absorbent article. Furthermore, Onodera fails to disclose nanoparticles generally and does not teach that leukocytes are nanoparticles. The Office provides no support for the assertion that leukocytes are nanoparticles other than the conclusory statement that leukocytes "are of a size small enough to be called nanoparticles." Summarily, Onodera fails to teach or suggest every limitation of Claims 2-7, which are dependent from and contain all limitation of Claim 1. As such, Applicants respectfully request reconsideration and withdrawal of this rejection.

REJECTION UNDER 35 U.S.C. § 103(a)

Claims 3-5 and 8-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kasugai. In support of this rejection, the Office states that Kasugai differs from the Applicants' claims by not discussing whether the cloth base materials is woven or nonwoven. The Office does assert that the generic disclosure is inclusive of both and that one of ordinary skill in the art would have found nonwoven cloth base material as an obvious option because it is the cloth-type most similar to paper as taught by Kasugai. Furthermore, the Office states that Kasugai did not perform a "Strike-Through" Test. However, the Office asserts that there are not significant or unobvious differences between the Kasugai process and applicants' claims as written. The Office concludes that Kasugai's process using a nonwoven material would have been expected to have like values if tested.

Applicants respectfully submit that the Office has failed to make a *prima facie* case for obviousness relative to Claims 3-5 and 8-11. A discussion of Kasugai is presented above. Kasugai discloses that corona discharge treatment of a base material results in a decreased

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

contact angle for the said base material. Kusugai fails to discuss strike-through or permeability of the base material either before or after the corona discharge treatment.

Claim 1, as currently amended, recites a more preferred embodiment wherein the material, which is comprised of hydrophobic or borderline hydrophilic components, is a portion of an absorbent article. Kusugai fails to obviate Applicants' claimed invention because Kusugai fails to teach each and every limitation of Applicants inventions. Case law states that to establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). Claim 1 which recites that the material is "comprised of hydrophobic or borderline hydrophilic components wherein said material is a portion of an absorbent article." Kusugai fails to teach or suggest that its photographic base material is a portion of an absorbent article. Claims 3-5 and 8 are dependent from Claim 1. "Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious." *In re Fine*, 837 U.S.P.Q.2d 1596 (Fed. Cir. 1988). As a result, Claims 3-5 and 8, which include all the limitations of Claim 1, are not obviated by Kusugai since all limitations are neither taught nor suggested.

Claims 9-11 have been cancelled. However, in spite of the cancellation, Applicants respectfully submit that the Office has failed to make a *prima facie* case for obviousness relative to Claims 9-11. Kusugai fails to obviate Applicants' claimed invention because Kusugai fails to teach each and every limitation of Applicants inventions. Claims 9-11 are directed to the liquid strike-through of the material. "Liquid strike-through" refers to the transport of moisture/liquids through a substrate. *See* page 3, line 30. Kusugai does not teach or suggest the effect corona discharge has on the photographic base material's ability to transport liquid. No disclosure is made in Kusugai regarding liquid strike-through or permeability of Kusugai's photographic base material. As a result, Claims 9-11 are not obviated by Kusugai since all limitations are neither taught nor suggested. In light of the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Onodera. In support of this rejection, the Office states, "While Onodera et al discuss increased wettability, by percentages, this is a different way of measurement than the claimed contact angle or the strike though test (STT), however one of ordinary skill in the art, would have found it obvious

Appl. No. 10/060,694
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Reply to Office Action of Oct. 15, 2003

that the 40% to 30% hydrophilic factor of Onodera, or the smaller initial one of the comparative plasma, where comparable to applicant's claimed contact angle range, due to taught hydrophilic effects."

Applicants respectfully submit that the Office has failed to make a *prima facie* case for obviousness relative to Claims 8-11. A discussion of Onodera is presented above. Onodera teaches irradiating a polyolefin material, such as polypropylene or polyethylene, with radiation and oxygen to make the polyolefin material hydrophobic. Onodera fails to discuss strike-through of the polyolefin material either before or after the corona discharge treatment. Onodera teaches a factor of hydrophilicity for measuring the relative hydrophilicity of a material. However, Onodera fails to obviate Applicants' claimed invention for several reasons.

First, as presented above, Onodera fails to teach each and every limitation of Claim 1. Onodera does not teach or suggest that leukocytes are nanoparticles. Furthermore, Claim 1 recites that the material is "comprised of hydrophobic or borderline hydrophilic components wherein said material is a portion of an absorbent article." Onodera fails to teach or suggest that its leukocyte-removing material is a portion of an absorbent article. Since Claims 8-11 are dependent from Claim 1, Onodera fails to obviate Claims 8-11.

Second, with regard to Claim 8, Onodera teaches a leukocyte-removing material with a factor of hydrophilicity of less than 40% and not less than 30%. The factor of hydrophilicity is the concentration of an ethanol to water solution at which the contact angle of a droplet of the solution becomes 120° or more. Onodera teaches that the material will have a factor of hydrophilicity of not less than 30%; thus providing a limit as to the hydrophilicity of the material. Onodera teaches that a decreasing factor of hydrophilicity (i.e., from above 40% to below 30%) evidences an increased hydrophilicity of the material. Col. 3, line 59 to Col. 4, line 7. Specifically, Onodera teaches a factor of hydrophilicity of not less than 30%. Col. 3, lines 55-56. Thus, the material of Onodera is limited such that a 30% solution of ethanol in water will result in a contact angle of 120° or more. Applicants claim a treated material having an advancing contact angle with water of less than 90° after 30 seconds of spreading. Applicants' claimed treated material has a contact angle of less than 90° with water (i.e., no ethanol; a 0% factor of hydrophilicity). Onodera clearly does not teach the degree of hydrophilicity present in

Appl. No. 10/060,694
Reply Dated Jan. 15, 2004
Reply to Office Action of Oct. 15, 2003

the Applicants' claimed invention. More precisely, Onodera teaches away from the level of hydrophilicity present in Applicants' claimed invention. In light of the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

CONCLUSION

Based on the foregoing reasons, Applicants respectfully submit that the Office has not made *prima facie* case of anticipation or obviousness and the rejections are therefore improper. Reconsideration and withdrawal of the rejections are respectfully requested. Allowance of each of the pending claims in the next Office Action is earnestly requested.

Respectfully Submitted,

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